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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,151	05/30/2006	Kia Silverbrook	YU181NPUS	6653
24011 7590 12/04/2009 SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA			EXAMINER HUFFMAN, JULIAN D	
			ART UNIT 2853	PAPER NUMBER
			NOTIFICATION DATE 12/04/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pair@silverbrookresearch.com  
patentdept@silverbrookresearch.com  
uscorro@silverbrookresearch.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/510,151	<b>Applicant(s)</b> SILVERBROOK, KIA	
	<b>Examiner</b> Julian D. Huffman	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheffellin et al. (U.S. 6,341,845) in view of Matsumoto (U.S. 6,467,870 B2).

Scheffellin discloses:

With regards to claim 4, a print assembly (fig. 1) for pagewidth inkjet printing (column 5, lines 17-19), the print assembly comprising:

an elongate carrier (30) that is mountable on a support structure of a printer (16) in an operative position with regards to a platen of the printer (18);

a number of printhead chips (40) positioned on the carrier, the printhead chips each having a plurality of ink ejection nozzle arrangements (40/472) on a wafer substrate (fig. 5, element 32, column 6, lines 58-67), each nozzle arrangement having an actuator for ejecting ink from an associated nozzle when a resistive element (48) of said actuator is heated by an electrical current supplied by drive circuitry (22, column 5, lines 10-14) on the wafer substrate; and

at least one controller (logic in IC 22) mounted on a printed circuit board (fig. 5, element 35, column 8, lines 23-24) that is positioned on the carrier (column 5, lines 10-

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15), the controller being connected to a plurality of the printhead chips via a flexible printed circuit board (78, fig. 6, column 8, lines 37-38) and being configured to control operation of the nozzle arrangements of the connected printhead chips.

With regards to claim 10, the limitation that each printhead chip is the product of an integrated circuit fabrication process is not seen to further limit the structure of the claimed apparatus.

With regards to claim 12, each nozzle arrangement is electrically connected to the drive circuitry layer since the drive circuitry layer controls firing of the nozzles.

With regards to claim 13, the assembly includes a plurality of printhead modules, each printhead module incorporating a printhead chip, the printhead modules being mounted on the carrier (fig. 7).

Scheffelin discloses that:

"In one embodiment, logic and drive circuitry forming a portion of electronic controller 20 is incorporated in an integrated circuit (IC) 22 located on inkjet printhead assembly 12 (shown in Fig. 5)." (column 5, lines 10-15).

"In one embodiment, printhead dies 40 are spaced apart and staggered such that printhead dies 40 in one row overlap at least one printhead die 40 in another row. Thus, inkjet printhead assembly 12 may span a nominal page width or a width shorter or longer than nominal page width." (column 5, lines 28-33).

Scheffelin does not disclose the controller configured to control operation of at least 10,000 nozzle arrangements of the connected printhead chips, or in which the

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printhead chips together incorporate at least one hundred thousand nozzle arrangements, or at least two hundred thousand nozzle arrangements, or between forty and one hundred printhead chips positioned on the carrier.

However, Matsumoto et al. discloses that in a page-width printhead “the number of short head chips 22 are not limited but not smaller than two, and may be selected according to the size, the number of pixels, resolution of images to be recorded, and the like” (column 6, lines 23-26).

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide at least two hundred thousand nozzle arrangements, or between forty and one hundred printhead chips, since selecting a number of nozzles or chips so as to print at a desired size, number of pixels, or resolution, is well within the ordinary skill in the art, as evidenced by column 6, lines 23-26 of Matsumoto, and such would enable the printer to print on a desired size of print media at a desired resolution.

Scheffelin does not expressly disclose that the drive circuitry is comprised in a CMOS drive circuitry layer.

However, CMOS drive circuitry layers are well known in the art and it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a CMOS drive circuitry layer for the purpose of providing a small scale device that is easy and low in cost to manufacture.

***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 10:00a.m.-6:30p.m. Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Julian D. Huffman/  
Primary Examiner, Art Unit 2853